DESIGN OF A NEW REGIONAL CALFED ENVIRONMENTAL RESTORATION IMPLEMENTATION ORGANIZATION: PRELIMINARY CONSIDERATIONS

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EXECUTIVE SUMMARY

It is a relatively common strategy in water and natural resources management to establish regional organizations to implement agreements and management programs that cross traditional administrative, substantive, and geographic boundaries. A review of this national history of research and experimentation in regional water management reveals a relatively disappointing track record for most efforts, at least in part due to serious omissions and errors made by the designers of these regional organizations. This observation should be of particular interest to parties associated with the CALFED Program, as efforts begin to design and establish a new ecosystem restoration implementation body—referred to herein as the Delta Ecosystem Restoration Authority (DERA).[1] In order to design an organization that can effectively address existing problems of poor interagency coordination and excessive governmental fragmentation, it is essential to simultaneously consider a wide variety of general "issue areas" associated with organizational design. Additionally, it is worthwhile to consider some of the lessons learned from other experiments with regional resource management. A familiarity with this body of knowledge provides a useful context within which to evaluate the unique needs and challenges associated with the CALFED situation.

General Design Considerations: Issue Areas and Lessons Learned

Designing a new regional water organization requires consideration of at least seven types of issues. First, it is essential to precisely define the "scope" of the proposed organization in terms of the subject matters to be addressed, the geographic area to be covered, and the time frame over which action is to occur. Second, the "functions and responsibilities" of the organization must be determined, with special attention being given to the administrative roles assigned to the new organization and the relationship of the new organization to other policy-making and resource management entities. A third issue area involves the rules of "membership and participation" in the new organization. Most regional water organizations are, to various degrees, collectives of other agencies, political jurisdictions, and stakeholders coordinated through the regional organization in a wide variety of strategies. The fourth area of concern to designers of a new regional organization is the "operational attributes" of the proposed entity. The most salient of these concerns is typically the selection of strategies and procedures for making collective decisions, as these arrangements are likely to influence the balance of power in the region. A fifth concern is the selection of an appropriate "legal structure" for the new organization, a decision that is largely dependent upon the "types of authorities" exercised by the organization—the sixth major issue area. Few areas of public administration have spawned as

[1] This term is borrowed from a discussion paper authored by Michael Heaton and David Fullerton (BDAC Assurances Work Group, 11/16/97). In borrowing this term, the NRLC is neither endorsing or challenging the specific Heaton/Fullerton proposal, but is simply acknowledging that "DERA" is a useful and concise term for describing the new regional organizational entity for CALFED ecosystem restoration implementation. The term "CALFED Oversight Committee" is also borrowed for the same reason.

many legal innovations as regional water management, which can frequently require the integrated exercise of formal authorities traditionally exercised independently by federal, state, and local governments. The seventh issue area is "financing," an area of weakness for most regional water organizations.

The decisions that are made in each of these issue areas should be influenced by a review of the "lessons learned" from past experiments in regional water management. Ten lessons are identified in this report:

1. *Consider Political Viability.* Political viability should influence all organizational design decisions since the most common source of failure for regional water organizations is resistance from politically powerful entities—especially other agencies.
2. *Let Function Dictate Structure.* Decisions about organizational structure should be made only after the intended functions of the new regional organization are precisely defined.
3. *Consider Broad Trends in Federalism and Intergovernmental Relations.* Effective regional organizations tend to reflect existing trends regarding the sharing of powers among the levels and branches of government, and between public and private sectors.
4. *Foster a Regional Perspective.* A frequent prerequisite to effective regional resource management is the development of a regional perspective among the public and agenices.
5. *Utilize a Problemshed Orientation.* The most practical physical management scale is usually the "problemshed"—a region defined to include those major factors that contribute to a given problem and those that must be controlled to implement the preferred solution.
6. *Utilize a Process Orientation.* All regional organizations should posses qualities and procedures that facilitate informed and efficient processes of decision-making.
7. *Do Not Burden Administrative Bodies with Fundamental Policy Issues.* Major policy conflicts must be resolved before effective regional management organizations emerge.
8. *Recognize the Importance of Conflict Resolution.* Regional organizations that lack explicit conflict resolution procedures are highly vulnerable to stalemates and gridlock.
9. *Design Mechanisms for Accountability.* Regional organizations should be designed to increase the level of governmental accountability for transboundary resource management.
10. *Promote Flexibility and Creativity.* Effective regional organizations are typically more flexible and creative than traditional resource management bodies.

Implications for CALFED

When compared to most other major efforts in regional resource management, the CALFED situation is unusual in several ways. Of particular significance is the fact that the proposed DERA entity is to be part of a much larger and pre-existing management framework, already featuring several major policy agreements (e.g., CVPIA, Bay-Delta Accord) and substantial commitments of funding. Also of note is the unusually ambitious nature of the CALFED ecosystem restoration program, and the emphasis being given to the implementation strategy of adaptive management. These qualities are likely to influence the organizational design effort in several ways.

Of particular importance will be the need to reach a decision on the future of CALFED,

and specifically, whether a future "CALFED Oversight Committee" (or similar entity) will be established to provide long-term policy guidance to DERA and other resource managers. If such an entity is established, then it can be relied upon to coordinate program elements, to address politically volatile issues concerning budgets and program priorities, and to provide general oversight to DERA. The existence of an active and politically accountable CALFED Oversight Committee, when combined with the new policy agreements emerging out of the assurances negotiations, would provide DERA with a tremendous degree of stability and the ability to make decisions based on scientific criteria, qualities needed to facilitate adaptive management. Failure to establish an Oversight Committee would make the design of DERA considerably more difficult, and could reduce the likelihood of achieving ecosystem restoration.

Even with the presence of an Oversight Committee, it is likely that DERA will require an unusually broad scope (of a substantive, geographic, and temporal nature), significant authorities, and a legal basis in federal and state legislation. Qualities of this nature are not typically seen in regional organizations due to considerations of political viability and to the simple fact that few organizations are established to pursue such ambitious goals in ecosystem restoration. To establish an organization with these qualities is probably best accomplished by nesting the DERA authorization within the larger package of assurances, as tentatively planned, and by utilizing organizational arrangements that minimize the disruption to the existing bureaucratic landscape.

I. INTRODUCTION

The Scope of This Report

One of the most difficult challenges in public administration is the design of institutional arrangements for the control of transboundary resources. No resource raises more boundary issues than the so-called "fugitive resource": water. The United States is a nation of transboundary rivers; all rivers are either international, interstate, sub-state, or a combination of these regions. Consequently, it is not surprisingly that few substantive areas of American governance have prompted as much innovation in public administration strategies as has the challenge of managing regional water resources. As participants in the CALFED Program—already one of the most innovative regional water management programs active today—consider new institutional reforms to facilitate further program implementation, it is worthwhile to consider and evaluate proposed reforms based on the body of knowledge gained elsewhere. This knowledge, when considered along with the specific and somewhat unique qualities of the CALFED situation, can help generate useful procedural and substantive input into the design of a new regional water organization for the region.[2] This report summarizes some of the knowledge gained over time by NRLC (Natural Resources Law Center) researchers and discusses that knowledge in light of the NRLC's initial observations of the current CALFED situation.

The observations and recommendations found in the following pages articulate a general philosophy about the appropriate way in which to design a regional water organization. This philosophy is the product of several factors: the NRLC's detailed familiarity with past experiments in managing regional water resources, and in particular, in the organizational (or administrative)

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[2] Note that a distinction is made in this report between the terms "institution" (or institutional arrangements) and "organization." The term "institution" refers to those agreements, regulations, laws, customs, practices, and other formal and informal rules that determine how, and by whom, a given resource is governed, managed, and utilized. An organization, on the other hand, is a specific entity—such as an agency, corporation, or committee. Regional water organizations are frequently key players in water institutions.

arrangements utilized to pursue management objectives[3]; the experience of the NRLC staff in designing regional water organizations and associated institutional arrangements[4]; and, the past experience of NRLC personnel with CALFED and Bay-Delta issues.[5] The general nature of the recommendations provided reflects the fact that this is a preliminary report. More detailed, and presumably more useful, advice will be provided as the organizational design process moves forward and Center researchers gain a more detailed familiarity with the concerns and goals of major stakeholders.

The Argument in Favor of Regional Water Organizations

Given the complexity and magnitude of the CALFED Program and the emerging strategy for environmental restoration (e.g., the Environmental Restoration Program Plan (ERPP)), it is not surprising that many parties favor the establishment of a new regional water organization to implement the program. Specifically, an organization to be known as the Delta-Ecosystem Restoration Authority, or DERA, has been proposed. This report borrows the term "DERA" to describe the future ecosystem restoration implementation body, but does not describe or necessarily endorse any specific organizational design proposals articulated by other researchers using the same moniker.[6]. The establishment of a new regional water organization is a common

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[3] The NRLC has recently published a definitive work summarizing the history of regional water management in the United States: *Regional Water Resources Management in the Western United States: A Historical Review of Institutional Issues and Experimentation* (Kenney, 1997, Appendix A). This work is available from the NRLC.

[4] Much of the information provided in this report is taken from Kenney (1997) and from consultant reports prepared by Kenney while working on the Alabama-Coosa-Tallapoosa and Apalachicola-Chattahoochee-Flint Comprehensive Study. (*Coordination Mechanisms for the Control of Interstate Water Resources: A Synthesis and Review of the Literature* (Kenney, 1994); *Phase 2 of Coordination Mechanism Research for the ACT-ACF Comprehensive Study* (Kenney, 1996).)

[5] NRLC Director Betsy Rieke was the lead federal negotiator on the Bay-Delta Accord (*see* Rieke, 1996).

[6] The term DERA comes from "option 1" of the BDAC Assurances Work Group Discussion Paper of November 11, 1997, authored by Michael Heaton and David Fullerton. Another discussion of potential organizational options is provided in the October 1 and November 5 (1997) memos of the "ad hoc committee on the structure and function of the ecosystem program," a technical committee of the Ag-Urban Group. Given the

and frequently appropriate strategy for improving water management.[7] The typical justification for establishing regional water organizations is to promote more integrated and coordinated resource management.[8] This goal is particularly salient in the modern era as increasing demands on limited resources better illuminate the many interrelationships among uses and programs, suggesting a need for greater holism in efforts to restore ecological systems. Effectively addressing the management challenge posed by regional water resources requires addressing a host of interagency, intra-agency, and intergovernmental considerations that promote a fragmented perspective—the antithesis of integrated resource management. One of the major strategies for addressing fragmentation in water institutions is the establishment of regional organizations.

Among the more easily recognizable interagency considerations that can hinder efforts at integrated regional water management are the establishment of agencies and programs along narrow functional lines, such as water development, resource preservation, or water quality management. This type of specialization not only ignores the physical interrelationships between water uses and between land and water management, but hides the fact that agencies, and the programs they implement, are often based on fundamentally different value structures and assumptions about what constitutes good resource management. Instead of working collectively to reconcile these differences, agencies can usually be expected to develop close relationships with those interest groups and academic disciplines sharing the narrow functional perspective of the agency, and will consequently often be reluctant to coordinate with or accommodate other agencies and interests involved with the same resources but pursuing different goals (Clarke and McCool, 1985).

This problem of interagency coordination is, in part, a reflection of even more fundamental

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tentative nature of these "strawmen" proposals, they are not critically reviewed in this report. An initial assessment, however, indicates several useful ideas in both documents that deserve further consideration.

[7] Note that the term "regional" is used in this context to indicate the report's focus on those water organizations designed to function at geographic scales that do not follow the boundaries of traditional political or agency jurisdictions.

[8] This subject is explored in an extremely diverse literature: *e.g.*, *see* Derthick (1974); Dworsky, Allee and North (1991); Kenney (1997); Mitchell (1990); Teclaff, (1967) and Water Resources Council (1967).

intergovernmental factors that can discourage an integrated water management perspective. Three types of intergovernmental factors are of particular concern: the fragmentation of government into three major levels (Federal, State, and local); the balancing of governmental decision-making authorities among three branches (the executive/bureaucratic, legislative, and judicial); and the delineation of responsibilities among the public and private sectors. As these are fundamental and presumably immutable qualities of the American political system, the deficiencies deriving from these qualities can only be partially remedied through institutional reforms.

Application to the CALFED Situation

Evidence of a fragmented and otherwise inadequate management perspective has been easy to identify in the Bay-Delta Region for many years, and is largely responsible for the eventual establishment of the CALFED Program (McClurg, 1997; Rieke, 1996). While a full review of this history is well beyond the scope of this paper, it is worthwhile to briefly observe that a legacy of largely uncoordinated and environmentally insensitive water development and management programs has resulted in a wide variety of significant resource problems in the region.[9] In part, these problems can be attributed to the competing and frequently incompatible demands placed on the environmental resources of the Bay-Delta, and the inability of existing institutional arrangements to manage these conflicts. Historically, this has been best illustrated by the presence of a State Water Project (SWP) exporting water to serve primarily urban interests to the South, competing for limited flows with the federal Central Valley Project (CVP) primarily serving agricultural interests in the Central Valley (Gottlieb, 1988). The primary loser in this north/south, agricultural/urban, and federal/state competition has been the natural environment, suffering from decreased flows, degraded habitats, species declines, and water quality deficiencies.

The environmental problems of the Bay-Delta drew national attention only after water quality violations resulted in judicial action, and an administrative turf war developed between the U.S. Environmental Protection Agency and the State Water Resources Control Board.

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[9] For example: several native fish species are endangered or threatened; habitats are declining (e.g., only 500,000 of an original 4 million acres of wetlands remain); water supply reliability has declined; many flood control levees, and other water projects, are structurally unsound; and, water quality in the Bay-Delta is often poor, primarily due to nonpoint-source pollution (McClurg, 1997).

Accompanying this conflict of federal and state regulators was a related conflict between water quantity and quality management, as the EPA soon concluded that the solution to the water quality issues likely depended upon modifying water quantity management regimes, a remedy largely outside of the agency's jurisdiction (Rieke, 1996). These issues were more directly within the domain of the U.S. Bureau of Reclamation, the U.S. Army Corps of Engineers, the California Department of Water Resources, and holders of water rights. Additional jurisdictional issues were raised by the endangered species concerns, managed by the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the California Department of Fish and Game. These and still other sources of institutional fragmentation became increasingly troublesome in recent decades as goals of environmental restoration and efficient water management were widely embraced. These trends encouraged reforms such as the Coordinated Operating Agreement of 1986 (between the SWP and CVP), the Central Valley Project Improvement Act of 1992, and the Bay-Delta Accord of 1994 (McClurg, 1997; Rieke, 1996). Collectively, these reform efforts are fostering a more holistic perspective in regional water management and environmental restoration. Making further progress in this area is likely to require a continued use of institutional innovations promoting integrated management. The establishment of a new regional water organization to implement environmental restoration programs is consistent with this need.

II. GENERAL DESIGN CONSIDERATIONS

There are at least two general approaches that can be used to design a regional water organization. The first approach is to copy in whole another organization in use elsewhere. This approach is generally not warranted given that the institutional needs of each situation are, to some degree, unique. The second approach is to design the organization piece-by-piece, utilizing a review of other relevant organizations to aid in the identification of the key issues and options. It is this second approach that is recommended, largely because the CALFED situation is sufficiently unique to preclude direct and wholesale extrapolations from other resource

management experiments. By identifying the types of choices and decisions that must be made in designing a new implementation entity such as DERA, and some of the consequences and considerations associated with those choices, this report can be a useful tool for focusing debate and further research.

The following pages identify seven key "issue areas" generally associated with the design of regional water organizations: (1) Scope, (2) Functions and Responsibilities, (3) Membership and Participation, (4) Operational Attributes, (5) Types of Authorities, (6) Legal Structure, and (7) Financial Resources. Within each issue area, several specific design considerations are discussed. While most of the areas listed are of relevance to the CALFED situation and the possible establishment of DERA, a few issues described may in fact be uncontroversial or moot in this case. Those issue areas are included in this review in order to present a complete picture of an organization comprised of several interrelated parts, and to better illuminate those decisions that have already been made—perhaps unconsciously or prematurely.

This discussion is followed by a "top 10 list" of lessons learned from an extensive historical review of large-scale efforts in regional water management throughout the nation.[10] Dozens of large river basin organizations have been utilized in the United States, most being created since the 1920's, while thousands of smaller sub-state water organizations, special districts (e.g., mostly water and sanitation districts), and ad hoc watershed committees have also been utilized. Although the CALFED Program is sub-state, it is best compared to other experiments pertaining to large rivers of national significance which typically happen to be interstate. The

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[10] Some of the large-scale, regional water organizations reviewed in formulating these lessons include most major water allocation compact commissions (utilized to implement 15 of the 22 relevant compacts), several compact commissions dealing with other water related issues (e.g., Ohio River Valley Sanitation Commission, Tennessee-Tombigbee Waterway Development Authority, Interstate Commission on the Potomac River Basin, Northwest Power Planning Council), several forms of interstate councils (e.g., Council of Great Lakes Governors), both federal-interstate compact commissions (i.e., the Delaware and Susquehanna River Basin Commissions), the Chesapeake Bay Program (overseen by the Chesapeake Executive Council), the Tennessee Valley Authority, and several defunct organizations, including the basin-interagency committees organized under the Federal Interagency River Basins Committee agreement (circa 1940's and 1950's) and the "Title II" commissions established pursuant to the Water Resources Planning Act (circa 1960's and 1970's). Several other unsuccessful proposals to create new regional water organizations were also reviewed, and in many cases offer lessons more valuable than those provided by the established bodies. Research investigating regional entities dealing with issues only tangentially related to water management, including issues of energy and economic development, also contributed to the formulation of the list of lessons learned.

complexity and magnitude of the CALFED Program, and its emphasis on balanced federal/state participation, generally precludes useful comparisons to special districts and other local efforts in regional water management.[11]

Major Issue Areas

Some of the more salient organizational design issues, organized into the seven categories listed above, are discussed in the following pages. In general, the issues are listed in the order that they should be addressed during the design of the organization.

(1) Scope

Before any progress can be made in the design of a regional water organization such as DERA, it is essential to precisely specify the scope of the new entity. The issue of scope has three main dimensions: substantive, spatial, and temporal. The substantive scope of a regional water organization is best described in terms of the level at which the organization is to promote integration (Mitchell, 1990). Integration at the "socioeconomic level" requires the organization to link water resources planning and management activities to those of other sectors, such as transportation or energy. A slightly narrower—but often more challenging—focus is provided by "environmental system level" integration, which usually involves managing the relationship between land use and the hydrologic cycle, something of particular importance in regional organizations concerned with floodplain management, erosion control, nonpoint source pollution control, wetlands and riparian zone management, watershed management, wildlife management, and general issues of environmental restoration. The substantive scope of most regional water organizations is confined to issues of "single sector level" (i.e., water) integration, where the primary management challenges can include managing the water quality-quantity relationship, the

[11] A detailed review of the American experience with regional water management is provided by Kenney (1997, Appendix A). Discussions of the different types of large-scale regional water organizations are provided by many authors, including Donahue (1987), Kenney (1993), the Water Resources Council (1967), Dworsky (1974), Hart (1971), Fox (1964), Derthick, (1974), and Teclaff (1967).

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groundwater-surface water connection, water project design and operations, and general questions of water allocation. In general, the broader the substantive focus, the more difficult it is to modify existing institutional arrangements to establish and empower the new regional organization. A broad substantive focus is often needed, however, to correct existing institutional deficiencies associated with an inappropriately narrow or fragmented management regime.

Issues of spatial and temporal scope are also key design considerations. Regional organizations are typically established at spatial (i.e., geographic) regions defined by the contours of political regions (e.g., county, state, or national boundaries) and/or natural regions (e.g., watersheds, river basins). As a general rule, political regions are useful for defining and concentrating management authorities while natural regions have more utility in the technical challenge of resource management, suggesting that a mixed system utilizing elements of both approaches—such as a problemshed or hydrocommons—is most widely useful. A "problemshed" is a region that is defined with respect to the causes and solutions of a given problem, rather than rigidly following the contours of political jurisdictions or catchment basins. A "hydrocommons" is essentially a service area, created when engineering and economics combine to breach topographic boundaries, allowing water resources to be exported to users in other basins (Weatherford, 1990).

The temporal scope of a regional water organization is best defined in terms of whether or not the entity is intended to be permanent, or whether it is to serve as a temporary or transitional body. Which approach is best is largely dependent upon the role that the regional water organization is expected to play within the long-term resource management strategy.

(2) Functions and Responsibilities

Closely related to issues of scope is the delineation of the functions and responsibilities of the new regional water organization, which is a source of tremendous variability among existing regional organizations (Donahue, 1987). When evaluating the functional qualities of regional water organizations, it is useful to distinguish between "soft management" functions (e.g., research, monitoring, advising, and advocacy) and "hard management" functions (e.g., project development, operation, and regulation). The majority of regional water organizations are

created to undertake the "soft management" roles; in fact, very few organizations—even those prominent few created to pursue "hard management" tasks—neglect the "soft management," information-based functions entirely, since most tasks are highly dependent on the gathering and dissemination of regionally-focused ideas and information. The efficient collection, analysis, and dissemination of regional and functionally-broad water resources data is an area of deficiency in many regional water institutions, primarily because most information providers traditionally lack the authorities, resources, incentives, and the political autonomy to gather and present comprehensive information from a regional perspective. Most regional water organizations are expected, at least in part, to fill this void.

When designing a regional water organization to undertake these soft management roles, it is unnecessary to establish an arrangement with a strong legal basis; nor is it always necessary for the organization to feature an independent staff if funds are available to support outside consultants or "research teams" comprised from the staffs of cooperating entities (Albert, 1993). The key consideration from an institutional design perspective is to ensure that the information providers are accountable and responsive to those individuals designated to serve as the decision-makers. Information that does not influence—due to its content or its timing—the nature and content of decision-making in the institution is of little practical value.

The counterpart of the "soft management" functions are, obviously, the "hard management" functions, which include tasks such as water development planning and construction, the regulation of water uses, and the operation of regional plumbing systems. In most large basins, these tasks are normally concentrated in the hands of the Corps of Engineers, the Bureau of Reclamation, the Environmental Protection Agency, and to various degrees, state water agencies. In a few basins—most notably the Tennessee—these functions have been transferred to new regional entities; however, reorganizing the bureaucratic landscape to that degree is normally not politically viable, nor is it generally perceived to be necessary or desirable. Instead, an increasingly common trend is to create and empower new regional water organizations with the authority to oversee and direct those entities that implement the hard management functions. Water agencies and users in the Delaware River basin, for example, must tailor their activities to conform to the contours of the comprehensive plan developed by the Delaware River

Basin Commission (ACIR, 1972). Similarly, the private and public entities that collectively control the operation of the Columbia River system are expected to respect the flow regime and reservoir-operating principles developed by the Northwest Power Planning Council (Volkman and Lee, 1988). This approach to institutional reform can allow the regional decision-making environment and the direction of regional water management to be fundamentally altered without imposing significant and controversial reallocations of bureaucratic turf.

(3) Membership and Participation

Once the functional responsibilities of the new organization are determined, it is then possible to identify those jurisdictions and/or agencies that potentially merit formal representation in the regional water organization. While some highly "independent and autonomous" regional water organizations exist, such as the Tennessee Valley Authority, most of these organizations are various forms of collectives, comprised of representatives formally affiliated with existing political jurisdictions and agencies. CALFED, comprised of federal and state agency representatives, is an obvious example. Whenever this type of organization is created, it can be a difficult challenge to determine which jurisdictions and/or agencies should participate. Historically, the area of greatest controversy has involved issues of federal/state jurisdiction, and the merits of including state representatives on interstate basin committees—something that was not often done in a meaningful way until recent decades. Most of the modern water management literature calls for balanced federal/state arrangements, for both philosophical and pragmatic reasons (Light and Wodraska, 1990; McClure and Griffen, 1993). The sharing of powers between federal and state actors is consistent with prevailing norms of federalism, and also ensures that the states are not isolated from the considerable technical, financial, and constitutional resources of the federal government. Ultimately, which approach is most appropriate is dependent upon several factors, including the relative balance of state and federal interests in the basin, the nature of the organization's proposed functions, and the current trends in intergovernmental relations, federalism, and constitutional law.

In the modern era, a potentially more controversial consideration involves the merits of formally empowering representatives of local governments, stakeholder groups, academics,

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citizens, and other nongovernmental entities to formally participate in the functioning of regional water organizations (ACIR, 1994). It is quite common for individuals from these "sectors" to participate as high ranking officials in regional water organizations, although positions are not usually explicitly reserved for representatives of these sectors, but are instead "open" positions filled through appointment processes (Kenney, 1996). Typically, appointment processes rely on the judgement of a governor, the President, or a legislative official. In contrast, representatives of agencies and political jurisdictions serving in regional water organizations generally assume these positions by virtue of holding other governmental positions.

The assumption that water agency officials should head regional organizations has come under attack by many authors, primarily because many water management functions involve not merely technical or engineering concerns (the background of most water managers), but also issues with a significant economic and ideological content (Feldman, 1991). As Lord (1984:653) has observed, "Bad water management often occurs when facts are confused with values, when means are confused with ends, and when *technical judgments are made by citizens and politicians while value judgments are made by scientists and professionals*" (emphasis added). These observations should influence the design of a regional water organization in at least two ways. First, they suggest that the structural qualities of the organization should be dictated by the types of functions and responsibilities envisioned for the body; and secondly, that the internal workings of the organization should feature "pathways" for the transfer of information and decision-making responsibilities among the different types of actors as needed.

(4) Operational Attributes

The way in which an organization functions--i.e., its *modus operandi*--is influenced by many factors, some of which can be unpredictable in nature and beyond the full control of the organization. This includes such factors as a changing political climate, an undependable source of financial resources, and the nature and magnitude of resource problems delegated to the organization. The basic functioning of the organization, however, is something that can be, in large part, consciously designed in prospect.

In the majority of regional water organizations governed by a group of representatives

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from other agencies and political jurisdictions, the most important design consideration is the selection of a decision-rule, since it is this rule that determines the relative allocation of power among members and the selection of dispute resolution tactics and strategies (Wandschneider, 1984; Kenney, 1993). A rule of unanimity requires reliance on negotiation, bargaining, and compromise, while a majority rule system supports an approach based on coalition building. Other common approaches call for an exaggerated majority rule (e.g., three-fourths majority) or a system that offers different decision-rules for different substantive issues. Closely tied to the selection of the decision-rule is the allocation of voting privileges among participating entities.

The importance and controversial nature of selecting the decision-rule should not be underestimated, especially in regards to how the proposed decision-rule will influence the political process associated with enacting the organization. Only in those regional water organizations that are highly independent or that are confined solely to apolitical and technical tasks, such as resource monitoring or other "soft management" functions, can the issue of decision-rule selection be subordinated to other concerns.

In order for a decision-rule to have the intended effect on behavior both within the institution and the organization itself, it is critically important that the organization be vested with sufficient authorities, scope, and resources to ensure that decisions are implemented, and of equal importance, to ensure that the organization cannot be easily bypassed by parties moving to other decision-making forums. If these conditions are satisfied, then the organization can provide a strong incentive for participation, which as Ingram (1973, 1971) observes, is essential if an organization is to make a major influence in an institution. A related concern is the importance of ensuring that the involved parties have equal and abundant access to good information, a requirement that has historically been best satisfied by organizations with independent staffs and an independent chairman.

(5) Types of Authorities

Many regional water organizations fail because they have insufficient or inappropriate types of authorities to effectively accomplish their intended functions (Derthick, 1974; Gregg, 1989). While the reluctance of established agencies and jurisdictions to delegate broad authorities

to new regional organizations is well documented and well understood, it is equally clear that organizations without formal authorities are ultimately constrained to the "soft management" functions—whether or not that was the intended outcome. If "hard management" functions are to be exercised through the new regional water organization, this can be done in two major ways: one, by formally endowing the organization with independent authorities; or two, by creating a framework within which participating entities voluntarily agree to exercise their own pre-existing authorities in a manner influenced by the management goals established by the regional water organization. These approaches have radically different implications regarding the needed legal basis of the organization, and raise many political issues. The generally widespread fear of creating authoritative regional water organizations is probably best overcome by focusing not on "negative" powers for the new organization (such as taxing or regulating existing water uses), but rather on "positive" powers, such as establishing (and perhaps overseeing) new markets, augmenting water supplies, modifying outdated policies, arbitrating disputes, responding to emergencies, ratifying and implementing new agreements, streamlining permitting processes, and related innovations that provide new and creative opportunities for efficient resource management.

When delineating the authorities of a proposed regional water organization, it is important to be cognizant of the limitations imposed by the constitution (Kenney, 1993). Several features of the more authoritative organizations, including the Northwest Power Planning Council and the Delaware River Basin Commission, raise significant constitutional issues, generally concerning the constitutionality of allowing state-dominated forums to regulate the actions of federal actors. This issue has been most directly examined in regards to the Northwest Power Planning Council, in which the Supreme Court has generally upheld the authority of the state-dominated forum to regulate the actions of the Bonneville Power Administration (Volkman and Lee, 1988). The balancing of state and federal powers in the federal-interstate compact commissions has also been the subject of scholarly and judicial inquiry, where it has been generally accepted that the federal government cannot be bound to those decisions to which the federal representative does not concur—a limitation that has not proven problematic in practice (GAO, 1981; Kenney, 1996).

(6) Legal Structure

A variety of legal devices have been used as the basis of regional water organizations, ranging from informal verbal agreements to federal-interstate compacts. In between these extremes are devices such as formal interagency agreements, memoranda of agreement/understanding, joint powers agreements, multi-state resolutions and consistent multi-state legislation, interstate compacts, federal legislation, and court decisions, among others (Donahue, 1987). While the regional water organization literature dwells extensively on this component, few generalizations regarding the efficacy of various approaches can be supported. The American experience with these organizations strongly suggests that the selection of the appropriate legal device should be primarily influenced by the factors of membership and desired organizational authorities, factors which themselves are derivative of the delineation of the proposed scope and functions. For these reasons, the selection of the legal structure for a regional water organization should be among the last design considerations. The importance of the selection, however, should not be underestimated.

(7) Financial Resources

It is universally acknowledged that it is unwise to expect effective regional resource management to emerge from institutional arrangements that provide insufficient funds for governance, administration, and field-level management activities, or from arrangements that rely on flawed formulas for the collection and distribution of financial resources. Yet, many regional water organizations have been (and still are) beset with financial shortcomings, often in a deliberate attempt to constrain the activity of the organization. The selection of a funding mechanism is an important consideration in designing these organizations, but one that can only be given serious attention once the functional, operational, and structural characteristics of a regional water organization have been delineated.

Most regional water organizations draw funds from three major sources: direct appropriations, from both Congress and state legislatures; contributions, either voluntary or mandated, of personnel and other resources from participating agencies; and self-supporting arrangements, relying on user fees, bonds, or even direct taxes born by users of the water

resource. Broad trends in water resources management generally call for a continued shifting of the financial burden from the federal government to the states, as well as for a greater reliance on user fees, market mechanisms, and other strategies for self-financing. Each approach has its own strengths and liabilities, and the ideal funding strategy for a given basin will likely feature a combination of these sources.

Direct appropriations are a common and philosophically acceptable funding source for many regional water organizations charged with managing public resources; however, this approach can result in organizations that are highly vulnerable to budgetary swings and overall public apathy. This is an important concern since most regional water organizations—especially those charged with regulatory functions—struggle to develop supportive constituencies (Derthick, 1974). Several types of regional water organizations, including most types of interagency committees, depend at least in part upon member agencies for personnel and resources. While this approach can provide a desirable element of accountability (to the member agencies) and flexibility, organizations funded in this manner can suffer from being ancillary, and generally low priority, components of bureaucracies often only modestly concerned with regional coordination. Those organizations with the independent authority to issue bonds, collect user fees, or even levy taxes are likely to enjoy a generally stable funding capacity, but establishing such arrangements are normally politically difficult.[12] Furthermore, arrangements that rely heavily on user fees are likely to show a bias in favor of producing marketable commodities (such as hydropower) over non-market public goods (such as wildlife protection), a phenomenon that is often cited as a deficiency of many existing water institutions (Feldman, 1991). This leads to the equally important consideration of how a regional water organization spends its money, an issue best addressed in terms of operational attributes and functional responsibilities.

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[12] The Tennessee Valley Authority, the Northwest Power Planning Council, and the Delaware River Basin Commission are among those organizations drawing funds from user fees. Hydropower revenues are of particular importance in the Tennessee and Columbia basins; in fact, the vast majority of TVA's multi-billion dollar budget comes from power revenues. The self-financing strategies are normally not an option for organizations that do not have formal management responsibilities or authorities.

Top 10 Lessons From History

Simultaneously considering all the implications and interrelationships within and between issue areas can be an extremely difficult challenge. Not surprisingly, most exercises in regional water organization design are generally viewed as failures, either because parties could not agree on a viable organization, or an organization is established that does not adequately satisfy the goals of the designers. This poor track record reflects not only the difficulty of the challenge, but also the frequently unrealistic expectations that accompany regional water organizations. The following paragraphs identify ten key lessons emerging from this historical experience that, if followed, are likely to increase the probability of success.

(1) Consider Political Viability

No factor is more important in the design of regional water organizations than political viability (Derthick, 1974; Ingram, 1973). The majority of ambitious proposals fail due to their inability to survive the politics of enactment.[13] Such failures, in turn, frequently lead to the enactment of "watered down" organizations that lack the authorities and resources needed to achieve their intended goals. This outcome explains the generally unflattering or apathetic appraisal of most regional water organizations. In order for a proposed regional water organization to survive the politics of formation and to then function effectively in the basin, it usually is critically important that the existing institutional landscape be disrupted as little as absolutely necessary. As many authors forcefully argue, innovations should build on what already exists, augmenting the positive features of the institutional arrangements while addressing the major deficiencies. Proposed innovations should also capitalize on crises whenever possible—an unpredictable but highly useful mechanism for overcoming the political obstacles to change.

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[13] In general, the viability of most proposed regional water organizations is discouragingly low, especially if the proposal features one or more of the following characteristics: (1) a significant shift in the locus of management and decision-making authorities, (2) a broad scope (that disrupts many existing bureaucratic arrangements), (3) the necessity of unanimous agreement among multiple parties for enactment, (4) a fundamental shift in the allocation of costs and benefits of resource allocation and management, and (5) high operating costs. In contrast, organizations that are "modest" in terms of scope, authorities, and costs typically enjoy higher political viability (Derthick, 1974; Ingram, 1973; Kenney, 1994).

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(2) Let Function Dictate Structure

In the design of a regional water organization, the desired scope and function of the organization should first be determined, and then structural qualities should be selected to support the organization's intended function. Often this is not successfully accomplished, largely due to a political environment that tolerates the creation of organizations with broad and comprehensive mandates, while blocking the necessary transfer of authorities and resources to these organizations (Derthick, 1974; Martin et al., 1960). In other cases, the failure to correctly match function and structure is derivative of sweeping political trends that render a form impotent. For example, the shift in national water policy from water development to water management is often associated with the demise of the Title II Commissions, which featured memberships, authorities, and voting rules more consistent with the water development era (Gregg, 1989; ACIR, 1972). Arrangements that poorly match function and structure rarely provide any significant benefits to the institution, and can harm the political viability of future innovations.

(3) Consider Broad Trends in Federalism and Intergovernmental Relations

As a tool for governance, administration, and/or management, regional water organizations must be designed to function in an environment that is largely shaped by broad trends in federalism and intergovernmental relations. One of the more salient and persistent trends is the large Federal role in western water resources, largely derivative of early interpretations of the commerce and property clauses, combined with the Federal orientation of the western water development program and other natural resource programs. In recent decades, as the emphasis has shifted from water development to integrated resource management, the dominant trends in Federalism have encouraged a partial transfer of responsibility from Federal to State, from legislative and executive to judicial, and, more recently, from public to private.

Each of these trends is much broader than the natural resources realm, and none has been fully or systematically expressed. This is especially true in the realm of western water where Federal water development and land management programs and Federal/State water quality programs have never been satisfactorily integrated with the State/private orientation of western water allocation arrangements. The result is a situation in which decision-making authority is now

more widely fragmented than ever and where crafting viable policy requires including more parties, interests, and values than most existing decision-making methods can readily accommodate. In many basins, the result has been decision-making gridlock. In order to make a useful contribution to the institutional arrangements of a basin, regional water organizations must be designed to deal with the consequences of these larger trends.

(4) Foster a Regional Perspective

As Harrison (1981:431) has observed, "before a comprehensive basinwide perspective can become operational, i.e., before constituencies exist to express it, they must perceive that the basin is a shared, finite resource and that they share responsibility for its stewardship." In the simplest terms, this requires that parties in one part of a basin realize how their patterns of water use affect parties in other parts of the same system. Similarly, it should be accurately conveyed how proposed sacrifices in one locale are likely to provide benefits elsewhere—an observation which should then be linked to rules of financing and compensation (Foster, 1984; Bauer et al., 1989). A strong regional perspective can be enhanced by a crisis having a regional or interjurisdictional quality, or more gradually by a deliberate public education campaign—a task often performed by the regional water organization itself.

(5) Utilize a Problemshed Orientation

The spatial scale at which a regional water organization is defined is an issue that has been the subject of considerable debate and experimentation (Martin et al.,1960; Kenney, 1993). While it has been acknowledged for many decades that politically-defined regions are appropriate for establishing mechanisms of governance and, to a lesser degree, administration, units defined in terms of physical factors have much greater utility for resource management. In many instances, however, the most obvious "natural" constructs of river basins and watersheds have lost much of their value as management units due to interbasin diversions and other factors (Weatherford, 1990). The most practical regional construct is the "problemshed," which is a region defined to include those major factors and activities that contribute to a given problem and that must be controlled or otherwise addressed as part of the solution strategy (Lord, 1982). Failure to use a

problemshed orientation has been at the heart of many ineffective regional water organizations—especially those operating at an international scale.

(6) Utilize a Process Orientation

Since the goals and implementation strategies employed by water managers are frequently dynamic and highly political, it is often necessary or at least useful to design regional water organizations that provide effective processes for goal-setting and decision-making, rather than establishing organizations designed exclusively to implement pre-determined and inflexible actions (Harrison, 1986; Fox, 1976). The processes should be highly democratic, emphasize participation and value-pluralism (i.e., accommodate divergent actors and value structures), provide accurate and relevant information to all participants (including monitoring and feedback), and provide mechanisms of accountability (Kenney, 1993; Harrison, 1986; ACIR, 1994). This design consideration takes on even greater importance in the modern era of "adaptive management," which requires management actions to be directed by processes of research, experimentation, and monitoring.

(7) Do Not Burden Administrative Bodies with Fundamental Policy Issues

In several basins, the goals of integrated resource management are often impeded by fundamental disagreements about how the resource is (or should be) utilized and allocated among functions and jurisdictions. In basins featuring fundamental conflicts of this nature, it is highly difficult to create regional water organizations with sufficient independent policy-making authority to resolve these divisive issues—although such organizations can assist in the negotiation of potential or partial solutions (Wandschneider, 1984). These fundamental issues are usually better resolved in more traditional forums, using more established mechanisms (Erhardt, 1992). Once these fundamental issues are resolved, regional water organizations can then be highly effective in implementing agreements in a creative and technically-sophisticated manner—qualities normally absent in those legislative and judicial forums where fundamental

policy disputes are typically resolved.[14]

(8) Recognize the Importance of Conflict Resolution

While it is true that incompatible programs and policies among agencies and political jurisdictions are occasionally the result of a failure to communicate, these deficiencies are more commonly associated with divergent groups pursuing divergent objectives. Consequently, integrated resource management is often more a challenge of conflict resolution than simply promoting increased communication or coordination. As discussed above in lesson # 7, it is best to address these problems, if possible, in agreements that predate the establishment of the regional water organization. If this is not entirely possible, then it is important to endow the organization with processes for debate and education, explicit bargaining, and collective decision-making resulting in enforceable and generally positive-sum outputs (Kenney, 1993). To function in this role, the mandate and authorities of the organization should be designed to discourage "end-runs"—i.e., parties seeking decisions in other forums (e.g., Congress or the courts) rather than via the regional water organization. Arrangements lacking these features do not provide sufficient incentives for participation.

(9) Design Mechanisms for Accountability

As Harrison (1986) and many scholars argue, one of the major deficiencies associated with fragmented water institutions is a lack of accountability. If no single entity has clear responsibility for the overall management of a regional resource, then it is impossible to hold anyone

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[14] This lesson is largely drawn from the experiences in the Delaware, Columbia, and Potomac Basins. In the Delaware, creative and effective regional management of the resource did not evolve until the Supreme Court addressed the fundamental issue of interstate apportionment, opening the door for more incremental and technically-sophisticated management by the Delaware River Basin Commission (Lord and Kenney, 1993). In the Columbia Basin, sophisticated resource management did not emerge until the fundamental and highly divisive issue of reservoir operations was addressed in congressional legislation that asserted that fishery interests had to be explicitly considered in operating regimes normally driven solely by hydropower concerns. The decision cleared the path for the creation and operation of the Northwest Power Planning Council (Gregg et al., 1991). In the Potomac Basin, increased systemwide water yields through improved reservoir operations were achieved only after it was agreed that shortages (and the risk of shortages) would be shared equally (Steiner, Holmes and Schwartz, 1988).

accountable for observed deficiencies. In order for a regional water organization to provide this element of accountability, it must possess functional and structural features which allow it to effectively perform as a forum of debate and conflict resolution as well as program implementation. Additionally, the organization must feature decision-makers who can, in some way, be held publicly accountable for their actions. This can include requiring that decision-makers be elected officials.[15]

(10) Promote Flexibility and Creativity

Many regional water organizations have featured memberships or processes that did not encourage creative approaches to problem definition or resolution. In particular, many arrangements have favored structural (i.e., project oriented) and regulatory approaches for dealing with water problems, when non-structural and market-oriented approaches promised to provide results with greater efficiency and equity.[16] Many authors attribute this partly to the delegation of policy-making authority to water development agencies which have a direct stake in the strategies utilized for problem resolution (Feldman, 1991; Harrison, 1986; and Kenney, 1993). A regional water organization that lacks the functional and structural qualities necessary to pursue and implement creative solutions is likely to be ineffective in the modern era of resource management, where both water and financial budgets are increasingly difficult to balance.

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[15] For example, over the past fifty years, it has become increasingly common to place governors (and other elected officials) in key positions in interstate water organizations, an innovation probably derivative of the poorly regarded performance of basin interagency committees headed by agency officials. This trend is normally praised in the scholarly literature (Harrison, 1986; Kenney, 1993; Feldman, 1991).

[16] In no basin has the potential of "non-structural" innovations been better illustrated than the Potomac. In that basin, the reservoir operations scheme developed and implemented by the Interstate Commission on the Potomac River Basin (ICPRB) has increased the overall system yield by over 50%, while satisfying instream flow and water quality objectives. In contrast, the "structural" solutions proposed earlier by the Corps of Engineers promised an increased yield of only 42% through the construction of as many as 16 major projects, with cost estimates ranging from $200 million to $1 billion (IWR, 1991).

III. IMPLICATIONS FOR CALFED

The Unique Policy Environment of the CALFED Situation

In order for parties involved in the CALFED situation to utilize the general observations and lessons regarding regional water organizations summarized in Section II, it is important to recognize that the CALFED situation has a few key qualities that are atypical of most other efforts encountered in a historical review. Four unusual qualities are of particular significance. The first is that the proposed implementation organization (DERA) is part of a much larger and already established regional management framework. One highly significant dimension of this framework is the presence of sweeping policy reforms, primarily found in the Central Valley Project Improvement Act (CVPIA), the Bay-Delta Accord, and the ongoing development by CALFED of a "preferred alternative." These exercises in conflict management and policy development offer the potential of establishing a regional organization largely isolated from fundamental policy disputes. This potential is further enhanced by the current existence of the CALFED Program, which provides an organizational vehicle for addressing policy issues. This entity must continue into the future, in some form, if a strictly implementation-oriented environmental restoration organization (i.e., DERA) is to be viable. (The term "CALFED Oversight Committee" is being used by some parties to describe a potential second-generation CALFED policy organization.[17]) In fact, many of the design considerations discussed in Section II, including topics such as the rules of membership and decision-making, may be of greater potential significance and relevance to the design of the CALFED Oversight Committee than the more narrowly defined environmental restoration implementation organization (i.e., DERA) with which this report is primarily concerned.

The second issue of particular importance in the CALFED situation is the unusually ambitious nature of the program. As a joint exercise in environmental restoration and water system augmentation, the program promises to extend into an extremely wide variety of

[17] Like the term DERA, this term is also borrowed from the Heaton/Fullerton discussion paper (11/16/97) without explicitly endorsing or rejecting any qualities those authors have attributed to this potential entity.

substantive areas and programs. This potentially entails sweeping bureaucratic reforms, including dramatic reallocations and concentrations of formal authorities. Reforms of this nature are rarely politically viable outside of a crisis situation or other outside stimulus. On the other hand, the momentum in favor of dramatic environmental restoration in California is unusually strong, perhaps best evidenced by the passage of Proposition 204.

The third relatively unique quality of the CALFED situation involves the desire to design and implement a restoration program based on the principles of adaptive management. To faithfully implement this strategy requires arrangements that concentrate program management decisions in the hands of resource managers using objective scientific criteria, operating autonomously with a long-term perspective shaped primarily by research findings and technical considerations. To allow the adaptive management philosophy to occur within a governance environment more typically driven by short-term political concerns and judicial decisions is a formidable challenge that must be addressed, in part, in the organizational design phase.

The fourth and perhaps most unique quality of the CALFED situation is the magnitude of the funding already allocated to the restoration program. Securing adequate funding is a chronic problem for most regional water organizations, and is a typical "weak point" that is strategically exploited by opponents to limit the scope of organizations or to limit their effectiveness. If the environmental restoration implementing organization (DERA) is relatively immune from these funding concerns, then the potential viability of the organization is greatly enhanced and the ambitious scope of the effort becomes much more plausible.

These four unique qualities of the CALFED situation influence the organizational design and enactment challenge in many ways. Factors that encourage the enactment of an effective environmental restoration implementing organization (i.e., DERA) include the existence of a larger CALFED "management framework" within which the organization will operate, and the existence of considerable financial resources. Other encouraging factors include the relatively high degree of regional consciousness already developed in the region, the apparent desire of major political interests to support a long-term Bay-Delta solution, and the lack of an interstate dimension to the Bay-Delta resource. Factors that can temper enthusiasm for DERA include the magnitude of bureaucratic disruptions likely needed to effectively pursue the broad scope of the

restoration program, the challenge of devising decision-making strategies and other operational attributes sufficient to implement the adaptive management strategy, the likelihood that the "preferred alternative" will contain several controversial elements, and the necessity of ensuring an effective long-term CALFED policy entity (i.e., a CALFED Oversight Committee) to oversee and assist the environmental restoration implementation body (DERA).

Also influencing the design of the DERA are considerations pertaining to the yet undetermined process that will be used to enact the selected organization. Several major negotiations and other decision-making processes are currently underway as part of the CALFED Program. Of particular significance is the development of an "assurances package" which could be implemented as part of DERA's organic document or in a separate agreement. Other areas of negotiation involve financial arrangements, HCPs, and the final selection of the preferred alternative. Again, the products of these decision-making efforts could be bundled along with the new regional organization proposal into a single package to be enacted in one effort, or each could be enacted separately or in various combinations. What approach is best is an important strategic decision potentially influencing all other design considerations.[18]

Preliminary Substantive Conclusions and Recommendations

Establishing the Context for Design of DERA

Based on a consideration of the unique CALFED Program situation in the context of more general lessons in the design of regional water organizations, a few preliminary conclusions and

[18] For example, it is generally much easier to generate political support for enacting an organization empowered to implement predetermined agreements than to establish a powerful entity with an imprecise mandate, as the latter approach can be seen as a risky and blind delegation of power to a new entity. If this latter approach is taken, it is then normally a political necessity to ensure that all powerful stakeholders are formally represented (i.e., have some decision-making powers) on the new entity. This approach has the drawback of potentially precluding the establishment of a highly independent scientific body designed to utilize an adaptive management approach. Political support for a more autonomous DERA could be salvaged in this scenario by stripping the proposed organization of all formal authorities, however, that option is not practically viable given the likely scope of DERA.

recommendations can be offered for discussion. The first conclusion is that the design of DERA, the proposed implementation organization for the environmental restoration program, should not be considered a separate effort from the design of the CALFED Oversight Committee. If a CALFED Oversight Committee is to be established, it should be a highly accountable policy-making and program coordination body offering broad participation of relevant agencies and jurisdictions and featuring extensive mechanisms of public involvement. The existing composition of CALFED appears to provide a decent model upon which the second-generation body could be designed—at least in part.

If this design approach is taken for the CALFED Oversight Committee, then DERA can be designed as a much more technically-oriented body, an approach consistent with the needs of adaptive management. These needs certainly do not preclude the participation of stakeholders, activists, and other concerned citizens in the operation of DERA, but do suggest that most decision-making responsibilities within DERA be concentrated in a decision-making group primarily guided by technical findings rather than interest group politics. Major decisions of DERA would likely require approval by the CALFED Oversight Committee, an acknowledgment that some implementation decisions have significant ramifications that extend beyond technical issues. Review of major DERA decisions by the CALFED Oversight Committee would also be needed to ensure adequate coordination and compatibility among all CALFED elements and other regional water management programs, and to exercise some control over major allocations and expenditures of the CALFED endowment—i.e., financial resources and water rights.[19]

An initial review of the CALFED situation also suggests that the enactment of DERA and the CALFED Oversight Committee should occur in the same legislative effort as the assurances package and potentially other agreements under negotiation. There are two reasons for this approach. The first reason is that both the organizational design and assurances efforts will likely require formal legislative action in order to achieve the desired level of formality and permanence. As a practical matter, it would undoubtedly be easier to navigate these legislative hurdles once

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[19] The "endowment" idea is described in the Heaton/Fullerton discussion paper (page 10) by calling for all federal and state implementation funds to be directly appropriated to DERA, along with all flows reserved for Endangered Species Act and CVPIA b(2) implementation.

rather than twice, especially since state and federal legislation are both likely necessary. A second and related reason is that it will be difficult to accurately define the range of scope and authorities of DERA and the CALFED Oversight Committee separate from the assurances package, which should feature both specific agreements as well as areas with pre-determined "floor and ceiling" limits within which DERA and CALFED Oversight Committee officials are empowered to exercise discretion. A potential variant on this approach would be to enact the assurances package (and potentially other major agreements) along with the CALFED Oversight Committee, including provisions that empower the Oversight Committee to enact and empower DERA in a later action. Regardless of which approach is used, the strategy should be to clearly define the "ground rules" of the restoration effort and other elements of the Bay-Delta Program before expecting stakeholders and legislators to support the enactment of organizations formally empowered to implement the program elements.

Specific DERA Elements: Tentative Recommendations

In order to facilitate further discussion about the design of DERA, the following paragraphs provide a "strawmen" addressing the major organizational design elements. As recommended earlier, this effort begins with a review of scope issues. As is true for many issue areas associated with the design of DERA, many of the questions of scope are primarily being addressed through the development of the restoration program strategy and the selection of the preferred alternative, rather than being issues debated only in the context of the proposed new implementing agency. Given the likely emphasis of the future CALFED Program on pursuing environmental restoration simultaneously with water supply augmentation and flood management, it is clear that "environmental system level" integration will be a major challenge for both DERA and the Oversight Committee. This necessitates a broad substantive scope, a consideration that will undoubtedly influence other design areas, including the delineation of authorities and the rules of participation. The geographic scope must also be broad, defined using a problemshed orientation that considers such factors as the north/south integration of the regional plumbing system and the extremely large habitat ranges of the endangered fish. The temporal scope of DERA and the Oversight Committee must also be broad, reflecting the long-term nature of the

program goals and funding schedules. These temporal scopes should either be defined as permanent or, perhaps more appropriately, in terms of a minimum lifespan (at least 20 years) with some type of specified periodic renewal or review process.

Many issues of functions and responsibilities are also being addressed through other program development activities. Perhaps the key observation emerging from these initial planning efforts is that implementation of the environmental restoration program will require DERA to perform a very wide range of activities, in both the "soft management" and "hard management" areas. While the so-called "hard management" roles will undoubtedly be the most controversial and will demand the greatest attention when addressing issues of authority and legal status, most of the activities of DERA will fall into the "soft management" category. In particular, the demands of adaptive management call for an active program of research, monitoring, and scholarly debate. Additionally, many field-level actions which could potentially entail the use of regulatory powers or other formal authorities will likely be pursued through voluntary incentive-based systems, a luxury afforded the CALFED Program through the significant public appropriations already earmarked for the program. DERA should be encouraged to exploit these opportunities. Additionally, it is strongly recommended that many field-level activities be implemented by contractors—including private entities, existing agencies, and other parties, including watershed groups—overseen by DERA, a strategy that will minimize bureaucratic disruptions while maintaining DERA's control over the restoration program.

General recommendations about rules of membership and participation in DERA were discussed earlier, centered around the idea that decision-making in DERA must be a largely technical exercise addressed by a relatively small (about 5 people) and permanent body of politically insulated parties with expertise in fields relating to environmental restoration and integrated resource management. Limited participation of stakeholders and other interest groups should also be provided. This general recommendation can be implemented in a variety of ways. For example, in order to provide a degree of political accountability and public control, the CALFED Oversight Committee could be empowered at specified intervals to review the performance of DERA decision-makers and to terminate employment if desired. In between these review periods, termination could only be permitted by the Executive Director of DERA, an

individual serving at the pleasure of the Oversight Committee. A committee system of stakeholders, resource managers, academics, and other interested parties could be utilized to advise DERA's decision-making group, with the chairs of these committees potentially appointed to serve on the decision-making group. Countless other approaches are also potentially viable..

This discussion leads into a consideration of decision-making rules and practices. In theory, adaptive management is, itself, a decision-making tool, in that the action steps are clearly specified and the criteria for making decisions are understood to be defined in terms of efficiently reaching pre-determined management objectives. Additionally, overall program goals and the general specification of program elements and strategies will largely be fixed, described in documents such as the ERPP, the preferred alternative and the EIS-EIR, and the assurances package. Consequently, the decisions that must be made through DERA will generally not focus on broad policy elements, but more mundane administrative and technical matters. Administrative and personnel decisions should be funneled through an Executive Director, while technical program-related issues should probably be addressed by a decision-making board utilizing traditional methods of majority rule decision-making. DERA should also be empowered to adopt other decision rules, such as a three-fourths majority, on issues of particular significance. These general principles are equally applicable to the design of a new CALFED Oversight Committee.

Delineating the authorities to be exercised by DERA is a difficult exercise, given that the implementation organization will undoubtedly need to possess significant powers relating both to water and land management, and will need to have enforcement authority vis-a-vis many existing political jurisdictions at the local, regional (e.g., district), state, and federal levels. To a great extent, the need to possess and utilize such powers can be minimized by front-loading many major decisions (presumably in the assurances package and preferred alternative and the EIS-EIR) and by utilizing an administrative strategy highly reliant on positive incentives. These actions will not, however, completely eliminate the need for extensive formal authorities. Authority will be needed to make incremental policy adjustments within the limits established by the "floor and ceiling" assurances, to manage financial resources and other assets, and to coordinate and control the actions of other public and private entities influencing the Bay-Delta environmental restoration program. In order to concentrate this level of authority into one body, a regional water

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organization must either rely on the voluntary exercise of authorities held by participating entities, or the organization itself must be delegated these authorities through a legislative action. It is this second approach that appears most applicable to DERA, with both state and federal legislation likely being desirable. A viable alternative would be to instead locate these authorities—or a key sub-set of these authorities, such as the powers of eminent domain—in the CALFED Oversight Committee, which would then exercise these powers as needed at DERA's request.

The last major issue area of financial resources takes on a particularly fascinating and highly unique quality in the CALFED situation, as significant firm commitments of federal, state and private funds have already been secured to implement program elements. How these funds should be controlled during the implementation phase, however, is still a matter where many key decisions must be made. The main decision in the context of this report is whether or not major funding decisions should be channeled through DERA, through the CALFED Oversight Committee, or through both entities. To effectively evaluate these options requires considering the different political environments of each organization. Given the general recommendations provided herein regarding the membership of the two entities, it is clear that the more these funding decisions are channeled through the Oversight Committee, the more the environmental restoration program will be subject to interest group politics. This is not inherently good or bad, but is rather a value choice that should be explored as part of the organizational design effort. One appropriate approach would be to empower the Oversight Committee to set (or at least approve) overall annual budgets, leaving DERA program managers the flexibility to allocate financial resources within the specified budget.

Summary: The Overall Philosophy of the Tentative DERA Recommendations

The several recommendations provided above are offered only as a potential strawman to guide further discussions. While most of the substantive recommendations can be modified without disrupting the overall integrity of the proposed organizational innovation, it should be noted that all the tentative recommendations are based on a single guiding principle that deserves serious consideration. This strawman is based on an overall philosophy that the general contours of the Bay-Delta environmental restoration effort will be established upfront, and that the purpose

of the organizational innovations under consideration will be primarily confined to implementing specific pre-determined strategies to achieve clear goals. Consequently, most of the decisions that will be required as part of implementation will be relatively mundane technical and administrative matters, which should be concentrated in a largely apolitical body of technical expertise utilizing outside advice only as appropriate. This is the role assigned DERA. Undoubtedly, some decisions of a larger policy nature will need to be made periodically as part of program implementation and oversight, and some coordination activities will need to be implemented to ensure that the Bay-Delta environmental restoration program is integrated with other activities being implemented under the overall CALFED Program and through other federal, state, regional, and local programs in water and land management. This role should be assigned to a more politically responsive and accountable entity: the CALFED Oversight Committee.

General Process Recommendations: Where to Go From Here

To make further progress in the design and adoption of new arrangements for program implementation will require a process that is part research, part negotiation. In general, all potential organizational innovations should be based on a clear overall philosophy, and each specific organizational element should be evaluated against three criteria:

1. Does the option effectively address an identified need or expected deficiency?
2. Is the option politically viable?
3. Is the option consistent with options selected (or being considered) in other issue areas?[20]

Ideally, the first of these criteria is best applied through a largely an academic exercise in

[20] It is impossible to provide a complete inventory of potential negative interactions in prospect. However, a few design approaches have been identified that are clearly incompatible. Several of the most important considerations have been identified earlier as "lessons learned." In general, the assertion that "form should follow function" provides the best guiding principle for evaluating potential interactions of organizational elements. This general axiom is most commonly violated in the realm of regional water organization design by the establishment of organizations with broad responsibilities, but without sufficient authorities and resources to pursue their mandates. If concerns of political viability limit the types and magnitudes of formal authorities that can be exercised through the organization, then the scope and roles of the entity must be adjusted accordingly.

institutional analysis, the second through negotiations with key stakeholders, and the third through a focused review of proposed organizational elements by individuals with experience in resource administration and, ideally, some appreciation of past experiences. Periodically, strawmen (i.e., complete proposals offered primarily to generate and focus debate) should be developed, circulated, and discussed in meetings of organizational design participants, leading to identification of specific research questions and, eventually, the identification of areas of general agreement and disagreement. This incremental process is likely to lead to a sound proposal with broad support, a practical necessity.

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